

# LETTERS to the Editor

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## Pupil Size in Heat Stroke

TO THE EDITOR: In the excellent Medical Staff Conference review of heat stroke (West J Med 121:305-312, Oct 1974), the patient described in the case summary was observed on initial physical examination to have dilated pupils. Although this finding has been reported by others, in a retrospective study of six patients treated at the San Francisco General Hospital for heat stroke between 1962 and 1974, three were found to have had pinpoint pupils on admission. Five of the six patients arrived in the Emergency Room comatose. Two of the six patients died and four of the six experienced lengthy and complicated clinical course. Three patients developed disseminated intravascular coagulopathy and two experienced focal seizures. Decerebrate posturing was also noted in two of the three patients with pinpoint pupils; diarrhea was observed in all three.

The mechanism of these variable pupil effects is unknown and, despite the numerous studies on heat stroke, we could only find one study which had made any consistent observations of pupil size.<sup>1</sup> In this study of thirty patients, five had pinpoint pupils, seven had dilated pupils, and eighteen had normal sized pupils. In the patients with pinpoint pupils a positive association between deep coma and a high temperature on admission was made.

Therefore, from our limited experience with heat stroke and the somewhat meager evidence in the literature,<sup>1,2</sup> we feel that heat stroke must be included in the differential diagnosis of any comatose patient presenting with constricted pupils.

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## REFERENCES

1. Kumar P, Rathore CK, Nagar AM, et al: Hyperpyrexia with special reference to heat stroke. *J Indian M Assoc* 43:213-219, Sep 1, 1964
2. Gottschalk PG, Thomas JE: Heat stroke. *Mayo Clin Proc* 41:470-482, Jul 1966

## More on Oral Contraceptives

TO THE EDITOR: Swerdloff et al have presented a most impressive article, "Complications of Oral Contraceptive Agents—A Symposium" (Swerdloff RS, Odell WD, Bray GA, et al: West J Med 122: 20-39, Jan 1975). Attention should be called to the complication of oral contraceptives that they did not discuss and which is highly relevant clinically. The complication I refer to is that of emotional disturbance—primarily depression. As early as 1967<sup>1</sup> oral contraceptives were implicated in causing significant emotional disturbance and in 1968 several authors<sup>2,3</sup> called attention to the association of oral contraceptives and depression. Given the large number of women at risk even a very low incidence of oral contraceptive related depression becomes an important issue. Given reported figures of 6.6 percent<sup>4,5</sup> of women developing depression on "the pill" the matter assumes major importance. A series of studies have questioned this<sup>6,7</sup> or placed it in the "psychological" realm<sup>8</sup> yet, recent evidence seems to clearly indicate that for some women (especially those with a history of depressive disorder or depression during pregnancy) oral contraceptives will reactivate depressive symptoms. That evidence has been found primarily in the British literature<sup>9-11</sup> and indicates clearly that tryptophan metabolism is altered in some women while on oral contraceptives, is associated with relative or absolute pyridoxine deficiency, and is accompanied by depressive signs and symptoms. Further that treatment of depressed women taking oral contraceptives and found to be vitamin B<sub>6</sub> deficient with supplementary pyridoxine significantly relieved depressive symptoms in all cases. Bray in his discussion covers Spellacy's work on carbohydrate metabolism well but necessarily did not include his work on B<sub>6</sub> metabolism.<sup>12</sup> In any case, some women on oral contraceptives will develop pyridoxine deficiency and clinical depression and this requires our attention as physicians—especially since the response to treatment is impressive.